

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-20. (CANCELLED)

21. (CURRENTLY AMENDED) An electrically operated injector (1) for feeding a gaseous fuel to a cylinder of an internal combustion engine, ~~in particular for a motor vehicle,~~ comprising:

an electromagnetic actuator (2) ~~acting~~ configured to act on a discoidal mechanical interceptor member (3) arranged to free or intercept a passage (4) for said fuel from a feed conduit (61) to a delivery conduit (5) connected to an outlet ~~(6),~~ (6); and

a seal element (40) ~~being~~ positioned between said delivery conduit (5) and said interceptor member (3), the seal element (40) being fixed to the interceptor member (3) and moving with ~~[[it]] the interceptor member (3), characterised in that~~

wherein the seal element (40) presents a recess (44) in ~~that~~ an end (42) thereof of the seal element (4) which cooperates with an end (43) of the delivery conduit (5) when the injector (1) is deactivated, said end (42) of the seal element (4) being annular, and ~~in that~~ the seal element (40) is of frusto-conical shape and rests with ~~[[its]]~~ a tapered end (42) of the seal element (4) on the end (43) of the delivery conduit (5) when the

injector is deactivated and the gas passage (4) is intercepted by the interceptor member (3), the seal element (40) being fixed in a seat (50) provided in ~~that face or~~ a first face (3B) of the interceptor member (3) which faces the delivery conduit (5), the seal element 40 ~~[[and]]~~ being made of elastomeric material,

and the seat (50) for the seal element (40) contains a projection (58) on which said element rests and of which it substantially copies the shape, the projection (58) presenting an annular shape having an inner wall (49) and an outer wall (59), the inner wall (49) acting as a support for the seal element when urged into closure by the interceptor member (3) which intercepts the gas passage (4).

22. (CURRENTLY AMENDED) An electrically operated injector as claimed in claim 21, ~~characterised in that~~ wherein the seal element (40) is co-moulded with the seat (50) of the interceptor member (3).

23. (CURRENTLY AMENDED) An electrically operated injector as claimed in claim 21, ~~characterised in that the~~ wherein a wall (48) of the recess (44) or an inner wall of the seal element (40) has an inclination different from that of an outer wall (47) of said seal element (40).

24-25. (CANCELED)

26. (CURRENTLY AMENDED) An electrically operated injector as claimed in claim 25, ~~characterised in that~~ 21, wherein the walls (49, 59) of the projection (58) have different inclinations to a common axis (M) which is perpendicular to ~~that~~ the face (3A) of the interceptor member in which the seat (50) for the seal element is present.

27. (CURRENTLY AMENDED) An electrically operated injector as claimed in claim 21, ~~characterised in that~~ wherein the seal element (40) projects from the first face (3B) of the interceptor member in which ~~[[its]]~~ the seat (50) is provided.

28. (CURRENTLY AMENDED) An electrically operated injector as claimed in claim 21, ~~characterised in that~~ wherein the interceptor member (3) presents, on ~~that face or a~~ a second face (3A) distant from the first face (3B) carrying the seal element, a projecting part (35) jutting from said second face (3A) and arranged to rest against the electromagnetic actuator (2) when the injector is open and the interceptor member (3) frees the gas passage (4), said member (3) being ~~hence~~ maintained at least partially detached from said actuator (1) when the injector is open.

29. (CURRENTLY AMENDED) An electrically operated injector

as claimed in claim 28, ~~characterised in that~~ wherein the projecting part (35) is annular.

30. (CURRENTLY AMENDED) An electrically operated injector as claimed in claim 29, ~~characterised in that~~ wherein the projecting part (35) is ~~a part~~ separate from the interceptor member (3).

31. (CURRENTLY AMENDED) ~~An electrically operated injector as claimed in claim 28, characterised in that~~ An electrically operated injector (1) for feeding a gaseous fuel to a cylinder of an internal combustion engine, comprising:

an electromagnetic actuator (2) configured to act on a discoidal mechanical interceptor member (3) arranged to free or intercept a passage (4) for said fuel from a feed conduit (61) to a delivery conduit (5) connected to an outlet (6); and

a seal element (40) positioned between said delivery conduit (5) and said interceptor member (3), the seal element (40) being fixed to the interceptor member (3) and moving with the interceptor member (3),

wherein the seal element (40) presents a recess (44) in a tapered end (42) of the seal element (4) which cooperates with an end (43) of the delivery conduit (5) when the injector (1) is deactivated, said tapered end (42) of the seal element (4) being annular, and the seal element (40) is of frusto-conical shape and

rests with the tapered end (42) on the end (43) of the delivery conduit (5) when the injector is deactivated and the gas passage (4) is intercepted by the interceptor member (3), the seal element (40) being fixed in a seat (50) provided in a first face (3B) of the interceptor member (3) which faces the delivery conduit (5), the seal element 40 being made of elastomeric material,

wherein the interceptor member (3) presents, on a second face (3A) distant from the first face (3B) carrying the seal element, a projecting part (35) jutting from said second face (3A) and arranged to rest against the electromagnetic actuator (2) when the injector is open and the interceptor member (3) frees the gas passage (4), said member (3) being hence maintained at least partially detached from said actuator (1) when the injector is open,

and the second face (3A) of the interceptor member (3) presents a seat (30) for an end (31) of a pin (24) partially inserted into an inner cavity (13A) of a cylindrical part (13) of the electromagnetic actuator (2), said pin maintaining the interceptor member (3) perpendicular to its direction of movement relative to said actuator (2).

32. (CURRENTLY AMENDED) An electrically operated injector as claimed in claim 31, ~~characterised in that~~ wherein said pin is of wear-resistant plastic.

33. (CURRENTLY AMENDED) ~~An electrically operated injector as claimed in claim 21, characterised in that~~ An electrically operated injector (1) for feeding a gaseous fuel to a cylinder of an internal combustion engine, comprising:

an electromagnetic actuator (2) configured to act on a discoidal mechanical interceptor member (3) arranged to free or intercept a passage (4) for said fuel from a feed conduit (61) to a delivery conduit (5) connected to an outlet (6); and

a seal element (40) positioned between said delivery conduit (5) and said interceptor member (3), the seal element (40) being fixed to the interceptor member (3) and moving with the interceptor member (3),

wherein the seal element (40) presents a recess (44) in an end (42) of the seal element (4) which cooperates with an end (43) of the delivery conduit (5) when the injector (1) is deactivated, said end (42) of the seal element (4) being annular, and the seal element (40) is of frusto-conical shape and rests with its tapered end (42) on the end (43) of the delivery conduit (5) when the injector is deactivated and the gas passage (4) is intercepted by the interceptor member (3), the seal element (40) being fixed in a seat (50) provided in a first face (3B) of the interceptor member (3) which faces the delivery conduit (5), the seal element 40 being made of elastomeric material,

and the delivery conduit (5) comprises a plurality of

portions (5A, 5B, 5C), two of which have variable cross-sections along their axis (K).

34. (CURRENTLY AMENDED) An electrically operated injector as claimed in claim 33, ~~characterised in that~~ wherein a first portion (5A) of variable cross-section lies in proximity to ~~that~~ the end (43) of the delivery conduit (5) which cooperates with the interceptor member and has a cross-section which converges towards the axis (K) ~~[[in]]~~ when moving away from said end (43).

35. (CURRENTLY AMENDED) An electrically operated injector as claimed in claim 33, ~~characterised in that~~ wherein the second portion (5B) of variable cross-section follows the first portion (5A) and diverges along the axis (K) ~~[[in]]~~ when moving away from said first portion.

36. (CURRENTLY AMENDED) An electrically operated injector as claimed in claim 33, ~~characterised in that~~ wherein a hole for sizing the gas flow directed to the outlet (6) is provided between said first portion (5A) and second portion (5B) of the delivery conduit (5).

37. (CURRENTLY AMENDED) An electrically operated injector as claimed in claim 33, ~~characterised in that~~ wherein a delivery conduit third portion (5C) lies between the second portion (5B)

and the outlet (6) and ~~is of~~ the delivery conduit third portion
(5C) has a constant cross-section.